# INSTALLATION / OWNER'S MANUAL

Schwank
INNOVATIVE HEATING SOLUTIONS

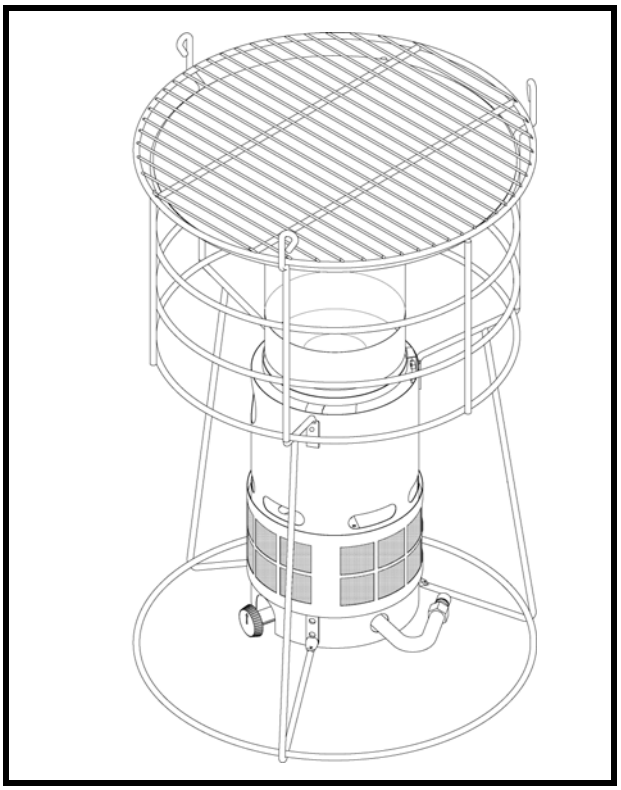
infrasave
radiant heaters

## SCH-90 & IC-90

## SERIES

## CONSTRUCTION

## GAS FIRED
## INFRA RED HEATERS



CERTIFIED

DESIGN CERTIFIED

**CAUTION: Read all instructions before use Retain this manual for further reference.**

GP-MCH9-BX-10C
SCH-90 / IC-90 Manual
R.D: Aug 2006
RL:10C
KH

***NOTICE:***

*The Manufacturer reserves the right to make changes to equipment and specifications without obligation or notification.*

*This publication, or parts thereof, may not be reproduced in any form, without prior written consent from The Manufacturer. Unauthorized use or distribution of this publication is strictly prohibited.*

*Schwank Group*
*5285 Bradco Boulevard*
*Mississauga, Ontario,*
*L4W 2A6*
*Phone: (905) 712-4766*
*Fax: (905) 712-8336*
*1-866-361-0417*

*PO Box 988, 2 Schwank Way*
*Waynesboro, Georgia,*
*USA 30830*
*Phone: (706) 554-6191*
*Fax: (706) 554 9390*
*1-877-446-3727*

*e-mail: info@schwankgroup.com*

***http://www.schwankgroup.com***

*InfraSave*
*Mississauga, Ontario,*
*Waynesboro,Georgia,*
*Phone: 1-866-INFRASV (463-7278)*
*Fax: 1-866-724-9265*
***http://www.infrasave.com***
*e-mail: info@infrasave.com*

GP-MCH9-BX-10C
SCH-90 / IC-90 Manual
R.D: Aug 2006
RL:10C
KH

**TABLE OF CONTENTS**


**— INFORMATION AND SAFETY LABELS** 4

**1.0 INSTALLATION REQUIREMENTS** 6

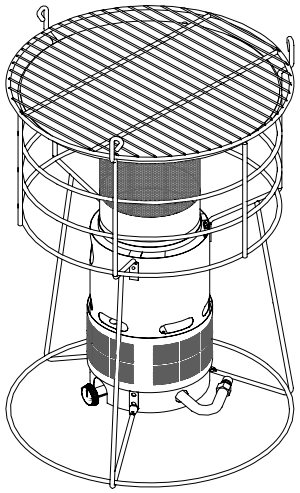
*1.1 GENERAL INSTRUCTIONS* 6
*1.2 GAS SUPPLY LINE/GAS PRESSURE* 7
*1.3 VENTILATION REQUIREMENTS* 7
*1.4 CLEARANCES TO COMBUSTIBLES* 7
*1.5 MOUNTING INSTRUCTIONS* 8
*1.6 LIGHTING/SHUTDOWN INSTRUCTIONS* 9
*1.7 LIGHTING/SHUTDOWN INSTRUCTIONS* 9
*1.8 THERMOSTATIC CONTROL* 10

**2.0 MAINTENANCE** 10

**3.0 REPLACEMENT PARTS** 12
3.1 SCH-90 / IC-90-N/L 12
3.2 SCH-90-M / IC-90-M-N/L 14

**4.0 WARRANTY** 16


# TECHNICAL SPECIFICATIONS



| | | NG | LP |
|---|---|---|---|
| **Input (BTU)** | *- Normal Altitude:* | *90,000* | *87,500* |
| | *- High Altitude:* | *81,000* | *79,545* |

| | | | |
|---|---|---|---|
| **Height (inches):** | *36”* | **Width (inches):** | *24”* |
| **Ignition controls:** | *standing pilot* | **Thermostat:** | *finger touch control* |
| **Tip-over switch:** | *35º* | **Gas inlet:** | NG-1/2” LP-3/8” |
| **Clearances to: Combustibles** | *24” (top) 48” (side)* | **Minimum gas: Pressure (W.C.)** | *6.3” (NG) 11.3” (LP)* |

*No electric power required.*

*Also available in 200,000 BTU*

# For Your *Information and Safety* ...
# Please read the following warning labels.

**⚠ WARNING**

Failure to comply with the precautions and instructions provided with this heater can result in death, serious bodily injury and property loss, damage from hazards of fire explosion, burn, asphyxiation / carbon monoxide poisoning.

Only persons who can understand and follow the instructions should use this heater. Service of this heater should be performed by a qualified service person only.

If you need assistance, or heater information such as an instruction manual, labels, etc. contact your local dealer.

**⚠ WARNING**

**FOR YOUR SAFETY**

- DO NOT store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.

**WHAT TO DO IF YOU SMELL GAS:**

- DO NOT try to light any appliance.
- DO NOT touch any electrical equipment.
- DO NOT use any telephone equipment in the immediate area.
- Immediately call your gas supplier or call the fire department.

**⚠ WARNING**

Improper assembly, adjustment, alteration, service or maintenance can cause injury, property damage, or death. For assistance or additional information, refer to this manual, or consult a qualified service agency, or the gas supplier.

**⚠ WARNING**

Fire, burn, inhalation, and explosion hazard. Keep solid combustibles, such as building materials, paper or cardboard, a safe distance away from the heater as recommended by the instructions. Never use the heater in spaces that do or may contain volatile or airborne combustibles, or products such as gasoline, solvents, paint thinner, dust particles or unknown chemicals.



GP-MCH9-BX-10C
SCH-90 / IC-90 Manual
R.D: Aug 2006
RL:10C
KH

## ⚠ WARNING

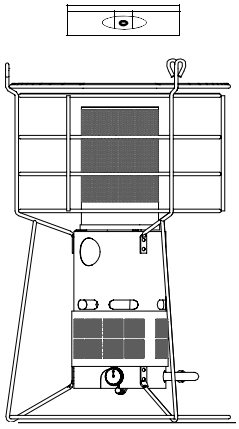
- DO NOT use heater in living or office areas.
- Approved for heating buildings or structures under construction, alteration or repair.
- Use only in well ventilated areas.
- Heater must be used exclusively for heating purposes.
- The distance between the heating surface top to the nearest combustible must be at least 24 inches. The distance from the burner surface, in a horizontal plane, to the nearest combustible must be at least 48 inches.
- The heater must not be directed towards any LP gas container within 10 feet.
- The fuel supply line must not be placed near the burner heat zone.
- DO NOT store or use gasoline or other flammable vapors or liquids in the vicinity of this or any other appliance.
- DO NOT use this heater if any part has been under water. Call a professional gas appliance service person to inspect the heater, and to replace any part which has been under water.
- Any changes to this heater or the heater's controls can be very dangerous.
- Any part removed must be replaced prior to operating the heater.
- Failure to follow these warnings may result in property damage, bodily injury or death.
- The heater must be installed in such a way that it is not directly exposed to water spray, rain and or dripping water.

## ⚠ WARNING

**NOT FOR HOME OR RECREATIONAL VEHICLE USE**

This heater is designed and approved for use as a construction heater per Canadian Standard 2.14 and Ansi Z83.7 –2000.
***CHECK WITH YOUR LOCAL FIRE SAFETY AUTHORITY IF YOU HAVE ANY QUESTIONS ABOUT APPLICATIONS.*** Other standards govern the use of fuel gases and heat producing products in specific applications. Your local authority can advise you about these.

## ⚠ WARNING



HEATER

MUST BE

LEVEL

BEFORE

OPERATING

# 1.0 INSTALLATION REQUIREMENTS

## 1.1 GENERAL INSTRUCTIONS

1. Examine contents for damage or missing parts before proceeding with these instructions.
2. Installation of heaters must conform to all local codes.
3. Ensure that heater is level before operation.

## 1.2 GAS SUPPLY & PRESSURE INFORMATION

All piping and hose must be installed according to local code, and must be of adequate size and construction. Natural gas models must have the supply line limited to 14 inches (maximum) water column.

If the line pressure will go above 14 inches water column at any time, a separate regulator must be used. The minimum supply line pressure at the inlet to the heater regulator must in no case be lower than 6.3 inches of water column.

**Note:** The regulator is an internal component of the heater and maintains the heater's manifold pressure; natural gas is 5.5 inches water column, and LP gas is 10.5 inches water column.

Heaters equipped for LP gas operations must have a minimum supply line pressure 11.3 inches of water column at the heater. Maximum line pressure is 1/2 PSI (14 inches water column).

**⚠ WARNING**

1. Minimum hose length – Canada fifteen feet (15') — USA ten feet (10') Maximum hose length - Fifty feet (50') (3/4" inside diameter)
2. LP Gas Cylinder must be located a minimum ten feet away from heater while heater is in operation.
3. After assembly and every time the heater is attached to a new gas cylinder or gas meter, check for leaks with a soap solution or leak tester on all gas lines and connections. Failure to do so may result in property damage, bodily injury or death. *DO NOT USE AN OPEN FLAME*.

If high pressure is used to check for leaks, do not subject this heater's controls to excessive pressure.

## 1.3 VENTILATION REQUIREMENTS

It has been determined that $CO_2$ levels should not exceed 5000 PPM (parts per million) and CO should not exceed 35 PPM for an eight hour continuous exposure.

Combustion of gas fuel requires air. Each SCH-90 heater requires 90 sq.in. of opening for combustion air. (ex.: 9" x 10" window opening)

To maintain the carbon dioxide content in the air at or below the concentration mentioned above, the number of air changes are listed below depending on the size of the space being heated:

TABLE 1

| Required room air changes per hour | |
|---|---|
| **Room Volume cu.ft.** | **No. of air changes /** |
| **5000** | **5** |
| **7,500** | **3** |
| **10,000** | **2.5** |
| **15,000** | **1.5** |
| **20,000** | **1.25** |
| **25,000** | **1** |
| **50,000** | **.5** |

## 1.4 CLEARANCES TO COMBUSTIBLES

TABLE 2

| MODEL | SIDE *( From Radiant Surface)* | TOP *(From Radiant Surface)* |
|---|---|---|
| **SCH-90 / IC-90-N** | **48"** | **24"** |
| **SCH-90 / IC-90-L** | **48"** | **24"** |
| **SCH-90 / IC-90-M-N** | **48"** | **24"** |
| **SCH-90 / IC-90-M-L** | **48"** | **24"** |

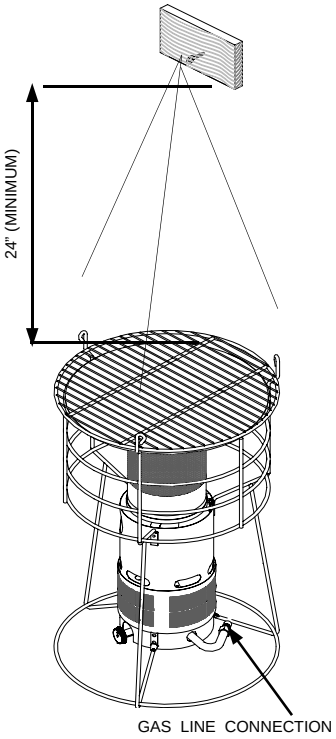
## 1.5 MOUNTING INSTRUCTIONS

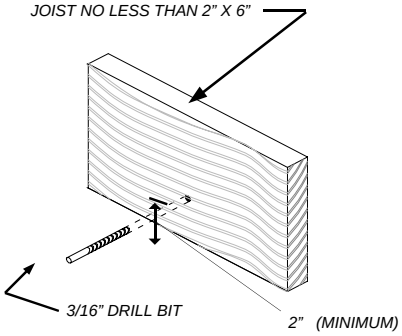
### FIGURE 1: SUSPENDED FROM CEILING

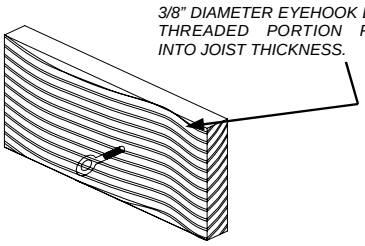
Heater may be suspended from ceiling using chain and mounting hardware. When hanging from joists / beams the 24" clearance to combustibles must be maintained, and measured from the bottom underside of the joist or beam as per drawing, and NOT from the suspension anchoring point of the chain. (See Table 2 page 6)

The construction heater is CSA International approved to be suspended as per these instructions and using the approved manufacturer's supplied suspension hardware. (optional part #JH-0910-xx)

**Note:** Suspending heaters is not allowed in some jurisdictions, check your local codes.



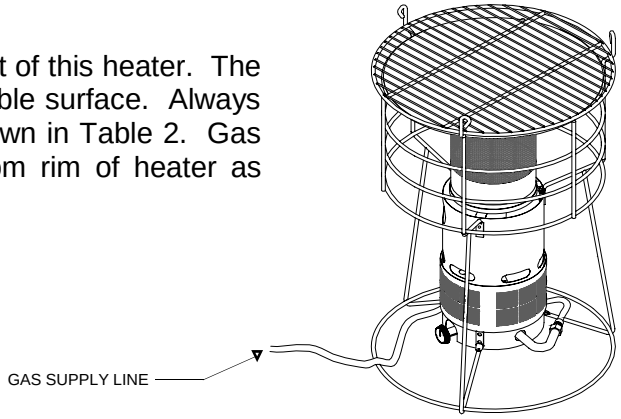




### FIGURE 2: FREE STANDING FLOOR MOUNT

A steel rod, non-combustible base is an integral part of this heater. The heater may safely be placed directly on a combustible surface. Always maintain minimum distance to combustibles as shown in Table 2. Gas supply hose/piping must lay over the top of bottom rim of heater as shown here.

**NOTE:** Heater is equipped with a tilt safety feature. Heater will automatically shut down when it is tilted over $90^0$ degrees




**WARNING** ⚠

Surface of heater will be hot to the touch. Take proper precautions. If the heater location must be changed, allow the heater to cool a full **15 minutes** before attempting to handle the heater.

**CAUTION** ⚠

On floor mounted units, the Gas supply line must lay above the bottom rim of heater. See Figure 2.

## 1.6 LIGHTING / SHUTDOWN INSTRUCTIONS

1. Pre-purge gas line prior to lighting.

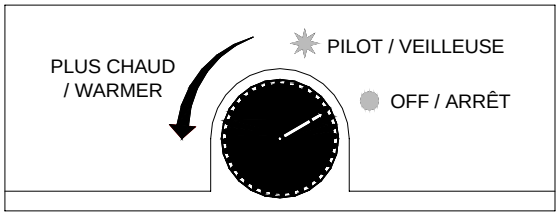
2. Place knob in the OFF position, rotate knob 1 notch, or "click" counter-clockwise. Depress and hold the control knob. Light pilot through porthole. Release knob after sixty seconds. Pilot burns, main burner is off.

3. Turn knob counter-clockwise to ignite main burner. Adjust knob to desired heat setting.

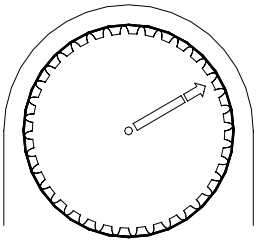
4. If burner does not light, turn knob completely clockwise . Leave in off position ***without*** pressing knob. Wait five minutes and repeat step two.

5. For complete shutdown of burner and pilot, turn knob completely clockwise, then depress knob.

*FIGURE 3*




note: this is an Instructional Sticker Only



Thermostatic Control Knob

## 1.7 THERMOSTATIC CONTROL

Multifunctional gas control with snap acting thermostat, thermo-electric flame-failure safety device, and a manual ON/OFF function. Thermostat range is 50ºF - 100ºF.

MAINTENANCE

See page 9.

## 1.8 LIGHTING / SHUTDOWN INSTRUCTIONS

1. Pre-purge gas line prior to lighting.

2. Turn the knob counterclockwise to PILOT position, push the knob down and hold in position. The pilot valve opens and allows gas to flow to the pilot burner.

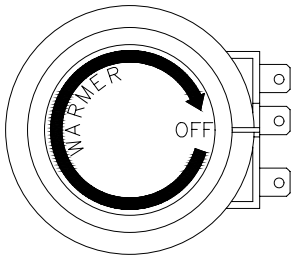
3. While holding the knob down, light the pilot burner, continue to hold knob down until a strong flame is present, continue holding for an additional 60 seconds.

4. Release the knob. The shaft moves upward and engages the safety valve level that opens the safety valve.

5. Turn the knob counterclockwise to the ON position. On a call-for-heat the main valve opens and the main burner ignites.

6. To shut off the system, turn the knob clockwise to the OFF position. This action closes the main gas and safety valves. However the power unit must drop out before the lighting sequence can begin again. The valve drops out within three minutes.

Thermostat range is 50° F to 100° F. Turn Thermostat clockwise to increase the room temperature.
Turn counter clockwise all the way to shut off, call for heat pilot is on for standby.




## 2.0 MAINTENANCE

This heater should be cleaned at least once annually with a dry cloth. This heater should be inspected before each use and at least once annually by a qualified service person.

The gas hose assembly shall be visually inspected prior to each use of the heater. If damage is evident it must be replaced prior to the heater being placed into operation. For replacement part information, see pages 12 & 14.

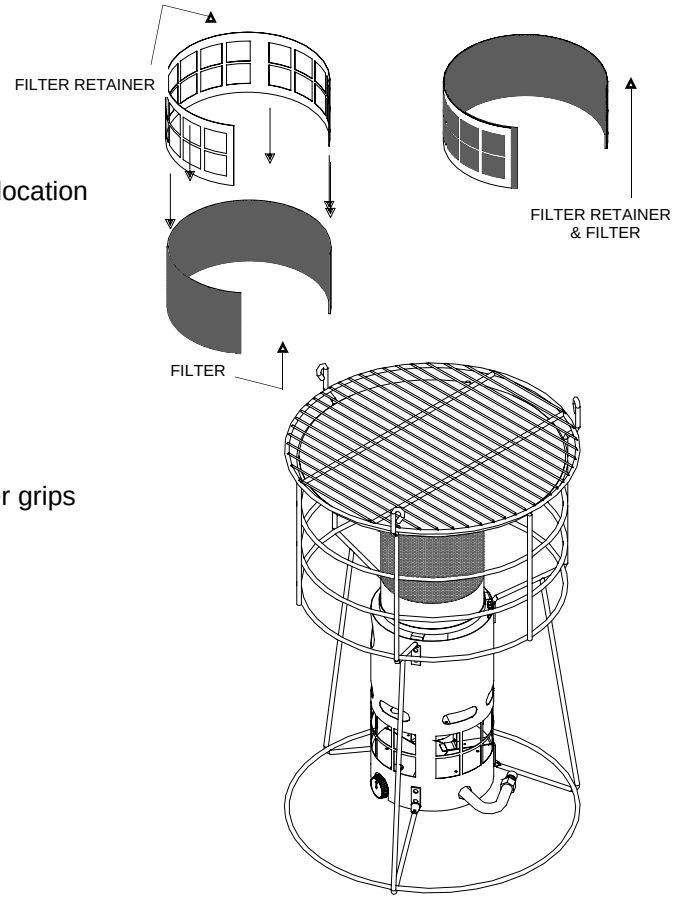
LP model heaters should use a standard LP gas cylinder. Cylinder must be located a minimum of 10 feet away from heater while heater is in operation. The cylinder must be provided with a system for vapor withdrawal. The gas must be turned off at the LP gas supply cylinder when the heater is not in use. The connection of the gas cylinder should be made with the #510 connector which tightens by turning the threads to the left. To disconnect the fitting make sure the gas is turned off, and loosen threads by turning them to the right. When heater is to be stored indoors the connection between the LP gas cylinder and the heater must be disconnected.

Keep appliance area free and clear from combustible materials, gasoline and other flammable vapors and liquids. Ensure that the flow of combustion and ventilation air is free from all obstructions.

**Replace filter at least:**

- once every 2 weeks
- minimum once a day when sanding drywall
- each time when connecting heater at different location

* Clean burner screen with each filter change;
  ( see next window )

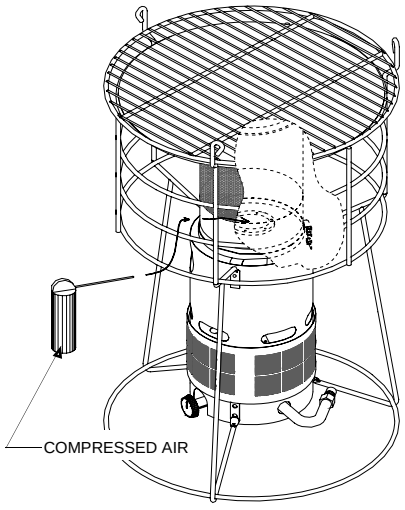



**Filter replacement:**

- Shut off gas supply
- Grasp filter retainer and pull together at retainer grips
- Free filter retainer
- Remove and discard filter
- Replace with a new filter
- Reinstall filter retainer, complete with filter

**Clearing Burner Screen:**

- Make sure gas supply is off
- Use compressed air  If air is not available on the site, aerosol can is available:
- Insert air nozzle through the pilot lighting hole at side of mantle base
- Direct at flame retaining screen, and blow out any accumulated dust
- Re-open gas supply
- Re-light pilot, and continue using the construction heater as before.






GP-MCH9-BX-10C
SCH-90 / IC-90 Manual
R.D: Aug 2006
RL:10C
KH

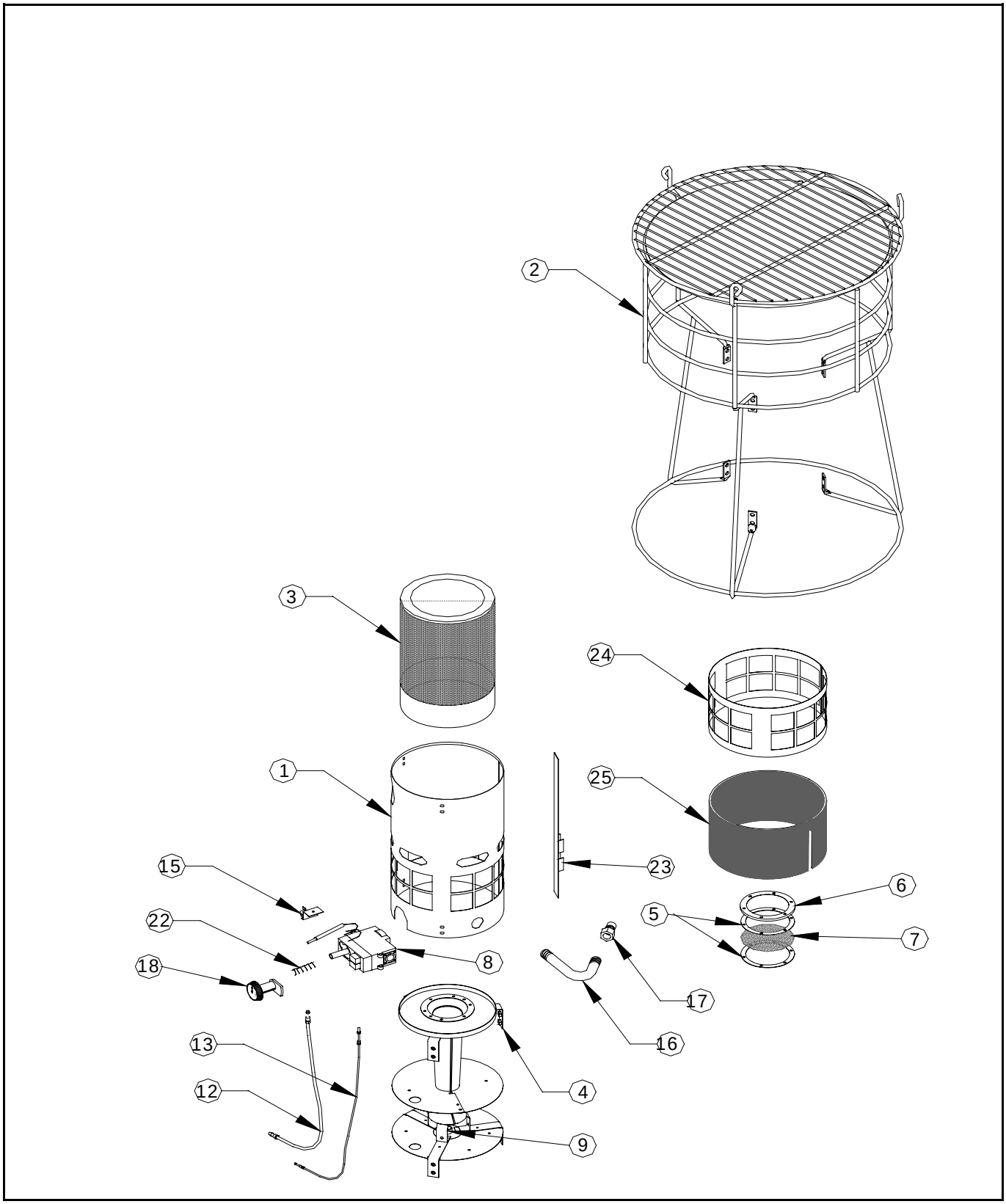
## 3.0 REPLACEMENT PARTS

## 3.1 REPLACEMENT PARTS FOR SCH 90-N/L / IC-90-N/L

*TABLE 3: REPLACEMENT PARTS LIST*
(REFERENCE PAGE 9)

| ITEM NO. | PART NAME | SCH-90-N | SCH-90-L |
|---|---|---|---|
| 1 | SHROUD | JH-0613-XX | JH-0613-XX |
| 2 | WIRE GUARD | JH-0610-XX | JH-0610-XX |
| | UPPER RING PORTION OF GUARD *Only* | JH-0610-TP | JH-0610-TP |
| | LOWER LEGS PORTION OF GUARD *Only* | JH-0610-BM | JH-0610-BM |
| 3 | MANTLE | JH-0433-XX | JH-0433-XX |
| 4 | VENTURI ASSEMBLY | JH-0615-XX | JH-0615-XX |
| 5 | BURNER GASKET | JH– 0437-FF | JH-0437-FF |
| 6 | FLAME SCREEN RETAINER RING | JH-0439-XX | JH-0439-XX |
| 7 | FLAME SCREEN | JH-0441-XX | JH-0441-XX |
| 8 | THERMOSTATIC GAS VALVE | JH-0412-NG | JH-0412-LP |
| 9 | MAIN ORIFICE | JH-0418-NG | JH-0418-XX |
| *10* | *PILOT BURNER (NOT SHOWN* | *JH-0406-XX* | *JH-0406-XX* |
| *11* | *PILOT ORIFICE HONEYWELL (NOT SHOWN)* | *JH-0407-NG* | *JH-0407-LP* |
| 12 | PILOT TUBE | JH-0463-XX | JH-0463-XX |
| 13 | THERMOCOUPLE | JH-0403-XX | JH-0403-XX |
| *14* | *BLACK WIRE ASSEMBLY (NOT SHOWN)* | *JH-0465-XX* | *JH-0465-XX* |
| 15 | SAFETY TIP SWITCH | JH-0405-XX | JH-0405-XX |
| 16 | 1/2” VALVE INLET ELBOW (3/8”AVAILABLE) | JH-0640-XX | JH-0641-XX |
| 17 | QUICK CONNECT | JH-0601-ML | JH-0591-ML |
| 18 | CONTROL KNOB | JH-0412-TK | JH-0412-TK |
| 19 | *REGULATOR ASSEMBLY (NOT SHOWN)* | — | JH-0903-RG |
| 20 | *HOSE ASSEMBLY—(NOT SHOWN)* | JH-0902-XX | JH-0902-LP |
| 21 | *E.C.O. ADAPTOR—(NOT SHOWN)* | JH-0401-XX | JH-0401-XX |
| 22 | SPRING | JH-0412-SP | JH-0412-SP |
| 23 | 8” RETAINER GRIPS (16” AVAILABLE) | JH-0936-XX | JH-0936-XX |
| 24 | FILTER RETAINER | JH-0935-XX | JH-0935-XX |
| 25 | FILTER | JH-0933-XX | JH-0933-XX |

**FIGURE 4: REPLACEMENT PARTS DIAGRAM FOR SCH 90-N/L / IC-90-N/L**





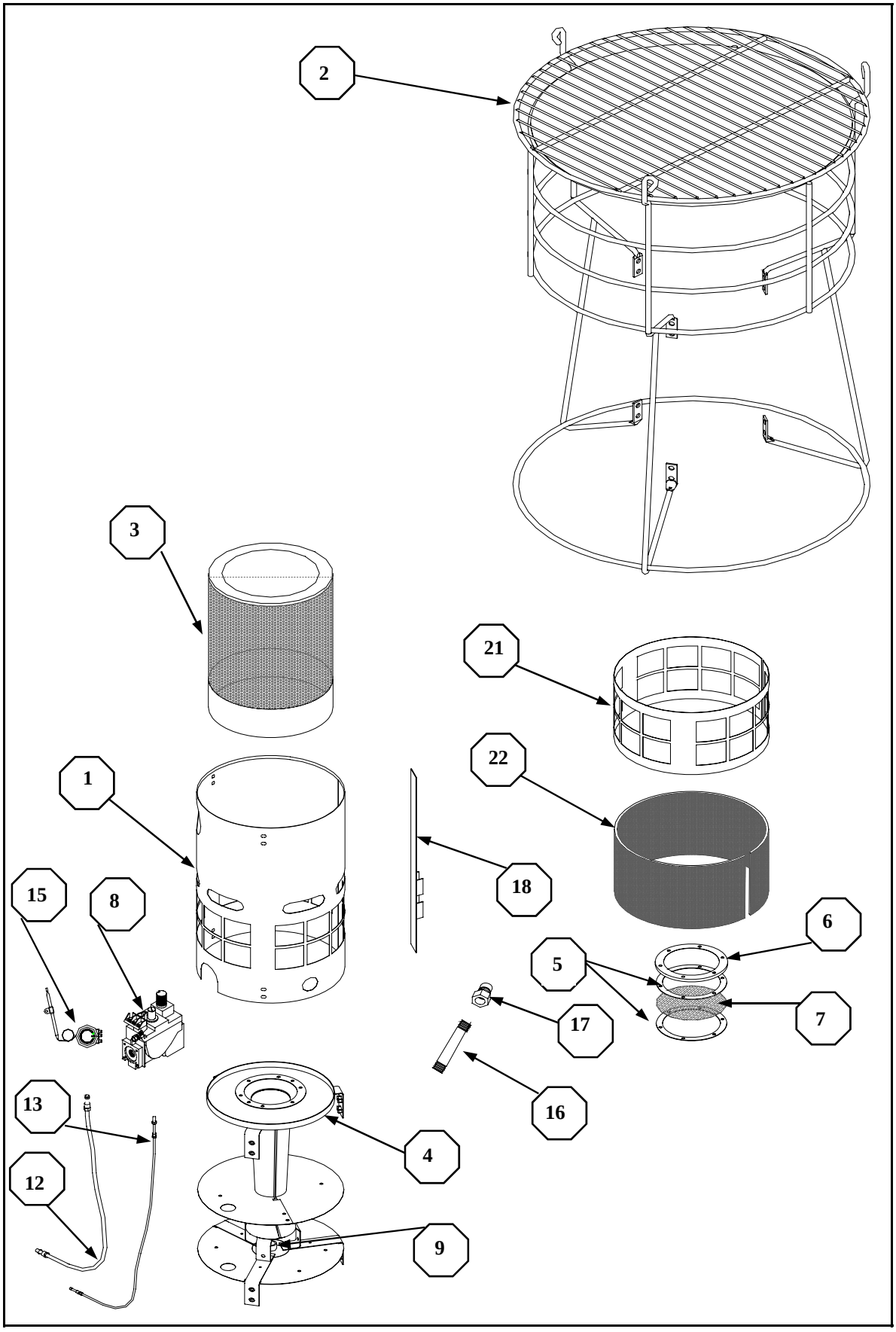

GP-MCH9-BX-10C
SCH-90 / IC-90 Manual
R.D: Aug 2006
RL:10C
KH

## 3.1 REPLACEMENT PARTS FOR SCH 90-M- N/L / IC-90-M-N/L

*TABLE 3: REPLACEMENT PARTS LIST*
(REFERENCE PAGE 9)

| ITEM NO. | PART NAME | SCH-90-N | SCH-90-L |
|---|---|---|---|
| 1 | SHROUD | JH-0613-XX | JH-0613-XX |
| 2 | WIRE GUARD | JH-0610-XX | JH-0610-XX |
| | UPPER RING PORTION OF GUARD *Only* | JH-0610-TP | JH-0610-TP |
| | LOWER LEGS PORTION OF GUARD *Only* | JH-0610-BM | JH-0610-BM |
| 3 | MANTLE | JH-0433-XX | JH-0433-XX |
| 4 | VENTURI ASSEMBLY | JH-0615-XX | JH-0615-XX |
| 5 | BURNER GASKET | JH– 0437-FF | JH-0437-FF |
| 6 | FLAME SCREEN RETAINER RING | JH-0439-XX | JH-0439-XX |
| 7 | FLAME SCREEN | JH-0441-XX | JH-0441-XX |
| 8 | MILLIVOLT GAS VALVE | JH-0414-NG | JH-0414-LP |
| 9 | MAIN ORIFICE | JH-0418-NG | JH-0418-XX |
| *10* | *PILOT BURNER (NOT SHOWN)* | *JH-0406-XX* | *JH-0406-XX* |
| *11* | *PILOT ORIFICE HONEYWELL (NOT SHOWN)* | JH-0407-NG | JH-0407-LP |
| 12 | PILOT TUBE | JH-0463-XX | JH-0463-XX |
| 13 | MILLIVOLT GENERATOR - POWERPILE | JH-0504-XX | JH-0504-XX |
| *14* | *BLACK WIRE ASSEMBLY (NOT SHOWN)* | *JH-0465-XX* | *JH-0465-XX* |
| 15 | THERMOSTAT ASSEMBLY | JH-0414-TS | JH-0414-TS |
| 16 | VALVE INLET | JH-0640-XX | JH-0641-XX |
| 17 | QUICK CONNECT | JH-0601-ML | HJ-0591-ML |
| 18 | 8” RETAINER GRIPS (16” AVAILABLE) | JH-0936-XX | JH-0936-XX |
| 19 | *REGULATOR ASSEMBLY (NOT SHOWN)* | — | JH-0903-RG |
| 20 | *HOSE ASSEMBLY—(NOT SHOWN)* | JH-0902-XX | JH-0902-LP |
| 21 | FILTER RETAINER | JH-0935-XX | JH-0935-XX |
| 22 | FILTER | JH-0933-XX | JH-0933-XX |

## FIGURE 5: REPLACEMENT PARTS DIAGRAM FOR SCH 90-M- N/L / IC-90-M-N/L






GP-MCH9-BX-10C
SCH-90 / IC-90 Manual
R.D: Aug 2006
RL:10C
KH

Schwank
INNOVATIVE HEATING SOLUTIONS

# LIMITED WARRANTY CERTIFICATE

infrasave
radiant heaters

## FOR GAS-FIRED INFRA-RED CONSTRUCTION HEATER : SCH / IC SERIES

The Manufacturer warrants that this product is free from defects in material or workmanship under normal use and service subject to the terms of this document.

### ONE YEAR WARRANTY

Subject to the conditions and limitations stated herein, during the term of this limited warranty, we will supply any component part (at our option a new or repaired component part) of the heater, as defined below, excluding any labor, which the Manufacturer's examination determines to be defective in workmanship or material for a period of one year (1 year) from the date of installation, unless otherwise specified below. This warranty applies to the heater's original owner, and subsequent transferees and only if the unit is installed and operated in accordance with the printed instructions accompanying the unit and in compliance with all applicable installation, building codes and good trade practices.

### BURNER AND MANTLE - ONE YEAR WARRANTY

The manufacturer warrants the burner and ceramic tile for a period of one year. (1 year)

### WHAT IS NOT COVERED

The Manufacturer shall not be responsible for any expenses, including service, labor, diagnosis, analysis, material or transportation charges incurred during removal or reinstallation of this product, or any of its components or parts. All labor or service charges shall be paid by the owner. This warranty does not cover heating products improperly installed, misused, exposed to or damaged by negligence, accident, corrosive or contaminating atmosphere, water (except STW-JZ / IW), excessive thermal shock, impact, abrasion, normal wear due to use, alteration or operation contrary to the owner's manual or if the serial number has been altered, defaced or removed. This warranty shall not apply if the input to the heating product exceeds by more than 2% of the rated input on the rating plate. The Manufacturer shall not be liable for any default or delay in performance by its warranty caused by any contingency beyond its control, including war, government restrictions, or restraints, strikes, fire, flood, acts of God, or short or reduced supply of raw materials or products.

### WARRANTY PROCEDURE

To establish the installation date for any purpose under this Limited Warranty, you must retain the original records that can establish the installation date of your unit. If you do not provide such documents, the start date of the term of this Limited Warranty will be based upon the date of unit manufacture, plus thirty (30) days. Failure to maintain the equipment through regular annual service maintenance by a qualified service technician shall void the warranty.

### LIMITATIONS AND EXCLUSIONS

This document contains all warranties made by the Manufacturer and may not be varied, altered or extended by any person. There are no promises, or agreements extending from the Manufacture other than the statements contained herein. THIS WARRANTY IS IN LIEU OF ALL WARRANTIES EXPRESSED OR IMPLIED, TO THE EXTENT AUTHORIZED BY THE LAWS OF THE JURISDICTION, INCLUDING SPECIFICALLY THE WARRANTIES OR MERCHANTIBILITY OF FITNESS FOR A PARTICULAR PURPOSE.

It is understood and agreed that the Manufacturer's obligation hereunder is limited to repairing or replacing parts determined to be defective as stated above. In no event shall the Manufacturer be responsible for any alleged personal injuries or other special, incidental or consequential damages. As to property damages, contract, tort or other claim the Manufacturer's responsibility shall not exceed the purchase priced paid for the product.

All replacement parts will be warranted for the unused portion of the warranty coverage period remaining on the applicable unit.

Some Authorities do not allow certain warranty exclusions or limitations on how long a warranty lasts or the exclusions or limitations of incidental or consequential damages. In such cases, the above limitations or exclusions may not apply to you and are not intended to do so where prohibited by law. This warranty gives you specific legal rights. You may also have other rights which vary by each jurisdiction.

**5285 BRADCO BLVD. MISSISSAUGA, ON, L4W 2A6**
**2 SCHWANK WAY, WAYNESBORO, GEORGIA. 30830-8336**

**SCHWANK** **Ph: 905-712-4766 Fax: 905-712-8336**
**INFRASAVE** **Ph: 1-866– INFRASV (463 7278) Fax: 1-866-724 –9265**

GP-DCHX-BX-03B
SCH / IC WARRANTY
March 2006
RL: 3B
KH